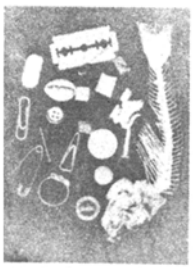

Retained Oesophageal Foreign Bodies - Report of Three Cases

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Abstract

Incarceration of foreign bodies in the oesophagus is a welknown clinical problem. Either children in the first decade of life or adults between 50 and 60 years of age are the commoner victims. Types of oesophageal foreign bodies differ according to age, being toys and coins in the childhood and dental prosthesis, fish bones or bone splinters in adulthood. Severe oesophageal injury due to incarceration of foreign bodies is exceptional in children but rule in adults. Foreign bodies can be retrieved from the oesophagus successfully in 99% cases with a mortality of less than 0.2%. Three cases have been discussed here, all having retained foreign bodies in their oesophagus for varying length of time with unique problems. Different management strategies were planned and successfully applied in these cases. All of them survived and doing well after reasonable period of follow up.

Incarcerated oesophageal foreign bodies are frequently observed at both the extremes of life, either in the 1st decade in children or in the adults between 50 and 60 years of age. Both males and females are equally affected. Though death by choking due to foreign bodies is known for centuries, the complex presentation of an occult dwelling foreign object was first recognised in 1838 by Ryland as described by Clerf in 1936[1], who wrote "the diagnosis of the foreign body accident claims the most minute attention". Though the credit for the first removal of a foreign body in 1896 goes to Killan[2], it was Chevalier Jackson[3] in 1930, after whom the well illuminated, rigid endoscopy was recognised as a safe therapeutic procedure.

Type of foreign bodies differ greatly in children and elderly. In children the list of swallowed objects is long but toys and coins largely overnumber others. Unless overlooked, their oesophageal incarceration rarely results in severe lesion, and perforation is only exceptionally present (Brossard et al, 1991)[4]. Dental prosthesis, fish bones and bone splinters are the most frequently encountered foreign bodies in adults and most likely to produce severe oesophageal injury. These are usually removed by Ear-Nose-Throat surgeon or by thoracic surgeon almost always with a rigid oesophagoscope (Brossard et al, 1991[4], Peytral et al, 1991[5]). Currently in experienced hands with adequate training and precise knowledge success rate of removal of oesophageal foreign bodies has reached 99% and mortality has dropped down under 0.2%.[4]

Prognosis of untreated oesophageal foreign bodies appear catastrophic on account of the possible complications like oesophageal perforation, mediastinitis, cervical or mediastinal abscess, empyema, oesophagotracheal fistula, oesophago-aortic fistula and septic complications (Jackson, 1957[6], Holsinger et al, 1968[7], Wilson et al, 1987[8]). Three cases of oesophageal foreign bodies are discussed here in this context to highlight the diversity of problems of retained foreign bodies. Management plan of these cases may throw some light regarding proper decision making which is crucial to save lives of such patients with old, incarcerated foreign bodies with serious and unique complications.

Case No. - 1

A boy aged $4\frac{1}{2}$ years pesented with the history of recurrent chest infection and marginal difficulty in swallowing. A chest skiagraphy revealed a ring in the oesophagus. Ba swallow demonstrated narrowing and distortion of the oesophagus at the level of the aortic arch. Computed tomography revealed a ring embedded in the oesophageal wall at the level of the aortic arch. The wall of the oesophagus at the site of impaction was thick and inseparable from the aortic wall and the lumen of oesophagus was narrow and irregular. There was no history of foreign body ingestion. Very careful interrogation of the child's grandmother revealed very interesting story. When the boy was 6 months old, a ring was lost from the house. When thorough searching of the house for the ring was in vein, the maid servant of the house was dismissed with the allegation of stealing the ring.

Retrieval of the ring from the oesophagus was essential to save the boy but the crucial decision was regarding the choice of the procedure-oesophagoscopic removal or operative removal. Operative removal did not appeal to be safe due to the location of the foreign body at the level of the aortic arch and involving the arch into the inflammatory mass. Moreover the site appeared to be less accessible surgically. Oesophagoscopy was therefore opted for. Oesophgoscopically a granulation mass was seen. Neither the ring nor the oesophageal lumen was identifiable. With the tip of a grasping forceps the feeling of the ring was appreciated. The tip of the forceps was then thrust into the granulation to grasp the ring. The manouvre was continued with great patience and caution to locate and hold the other side of the ring. Though the ring could be hold but it could not be pulled out as it was totally embedded in the oesophageal wall. The ring was then broken with the foreign body grasping forceps at two points. The narrow portion could then be manouvered out with ease but the rectangular portion required much manipulation for extraction. The oesophagus was then thoroughly

inspected. There was little bleeding and there was no evidence of injury of the surrounding structures. The oesophagus at the site of impaction which appeared to be covered with granulation tissue was dilated and a Ryle's tube was introduced for feeding.

Postoperative recovery was uneventful. Feeding was continued through the tube for three weeks and then oral feeding was resumed thereafter starting with sterilised water. Follow up Barium study showed a bit distortion and irregularity at the site of impaction without any other problem. Chest skiagraphy did revealed normal mediastinum and expanded lungs. The boy is eating alright after 9 months follow up and there has been no further attack of chest infection.

Case No. 2

One 15 year old boy was brought with his mouth open, grossly infected with profuse salivation and foul smelling. It was learnt that he had swallowed a "KOI-FISH" 3 days back while he was fishing in a shallow and muddy pond. It is a common practice in some areas of rural Bengal to catch KOI-FISH in summer months from shallow and muddy ponds with a special type of busket. As soon as one fish is caught it is kept inside the mouth cavity temporarily to catch another fish. When 2 or 3 fishes are caught, they are transferred to a reservoir made up of net wrapped round the waist. While the boy was following this procedure, accidentally he swallowed one fish. The blunt head of the fish entered the oesophagus but the wider body got obstructed at the introitus. People around tried to take out the fish by pulling it by tail but it acted adversely as the KOI-FISH has got a row of fin with stout bones in the middle of the back. As the fish was pulled the fin bones got embedded in the tissue around the introitus. He could not close his mouth and profuse salivation started. Retrieval was again tried by local physicians but everybody failed. Gradually the oropharyngo-oesophageal areas got grossly infected and the fish underwent decomposition giving rise to foul smell and horrible look. Intravenous fluid and antibiotics were started and jejunostomy was done. Thorough mouth wash with warm normal saline and antiseptic solution was started and continued at 2 hourly basis. It was difficult to decide the procedure of removal of the rotten and foul smelling fish from the boy's mouth where it was badly embedded.

It was decided to remove the fish piecemeal with grasping forceps using the laryngoscope to keep the mouth open in desired position. Initially the portion of the fish which was visible was removed by cutting with scissors. Thereafter small pieces of flesh and bones were removed piecemeal with the grasping forceps. The procedure of removal was not difficult as the fish had already started getting decomposed making the joints loose. The procedure was continued for several days till the last bits of the fish was removed. Jejunostomy feeding was continued. Oropharyngo-oesophageal inflammation gradually subsided and the boy could swallow his saliva and water. A Barium oesophagogram done after 3 weeks revealed normal oesophagus. Feeding was resumed and the jejunostomy was removed subsequently. After one year follow up the boy was found to eat normally without having any complication.

Case No. 3

A 73 years old male reported with the history of swallowing a dental prosthesis 7 days after the accident. Retrieval with oesophagoscope was tried elsewhere but was unsuccessful. He had spikes of temperature and was toxic. His chest skiagraphy revealed left sided pleural collection with air-fluid level. Intracostal chest drainage was done. There was substantial foul smelling collection. Intravenous fluid, antibiotics and parentral nutrition was continued. The next day rigid oesophagoscopy was done under general anaesthesia. Denture plate was seen perforating the lateral oesophageal wall. Left posterolateral thoracotomy was done. The dental prosthesis was removed by making a longitudinal incision at the site of the perforation. Oesophagotomy was closed with interrupted sutures reinforced with a pedicled intercostal muscle flap. Chest was thoroughly washed with normal saline and betadine lotion. Chest was closed with a basal intercostal chest drain using no. 36 tube. Jejunostomy was done. Post operative period was

stormy but the patient survived. Jejunostomy tube feeding was started after the 10th postoperative day and was continued for 6 weeks. Chest drainage tube was removed after the lung expanded fully and there was no further collection. Barium swallow oesophagogram done after 6 weeks, revealed normal oesophagus and oral feeding was started. After one year's follow up he was eating normally, his chest skiagram was normal but he stopped using dental prosthesis forever.

Conclusion

These three unusual cases demonstrated the wide horizon of complications of retained oesophageal foreign bodies. It is a strong lesson from the case no. 1 that the greatest diagnostic tool for oesophageal foreign bodies in small children is strong suspicion. It can also be concluded that impacted, totally embedded and even long retained foreign bodies can be retrieved without complication with patience and expertise.

The case no. 2 with a whole fish in the mouth shows the uniqueness of presentation of a pharyngo-oesophageal foreign body. It also suggests that probable complications of attempted retrieval must be considered before trying to extract a foreign body. Gradual and piecemeal removal over the days may be suitable at times for organic foreign bodies.

The case no. 3 clearly shows the dreaded complications of badly managed oesophageal dental prosthesis even at the close of this millennium. Early oesophagoscopic removal in expert hands may prevent such complications. However in delayed and poorly managed cases like this, well planned approach may prove to be life saving.

From thorogh study of these three cases it may be safely concluded that all oesophageal foreign bodies, be it fresh or retained with ocean of complications, may be retrieved safely but each case needs to be individualised regarding management planning to maximise outcome.

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